Research Note 85-2

A SURVEY OF ARMY TEAM OPERATIONS

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FOREWORD

This report is one of a series on the research support provided by the Mellonics Systems Development Division of Litton Systems, Inc., to the Army Research Institute for the Behavioral and Social Sciences (ARI) under Contract Number DAHC 19-77-C-0011. This report is part of the final report of the total contractual effort and will be incorporated into that report by reference.

As set forth in the Contract Statement of Work, the Mellonics effort includes support to the human factors studies presently being conducted by ARI. One of these studies involves the investigation of Army teams. This report details the construction of demographic survey instruments for identifying Army team types, and presents an analysis of how these teams are distributed within and across Army branches.

ABSTRACT

Over the past several years, considerable progress has been made in improving the effectiveness of the soldier performing as an individual, but performance of soldiers as teams has not been systematically addressed. This report details the construction of demographic survey instruments that were used to identify what types of teams exist and how these teams are distributed within and across Army branches. The survey provides a catalogue of teams and identifies their characteristics. Essentially, thirteen Army subject areas, all combat and combat support services, were surveyed. The average Army team was found to consist of 6.7 members who fill 4.3 positions, has 2.5 ranks represented with members categorized under 2.0 MOSs. Each team has 0.5 members with skill level 40 or above, 0.6 with skill level 30, 1.9 with skill level 20, and 3.1 with skill level 10. The team uses 3.9 pieces of equipment while performing 4.9 activities of which 1.0 is performed by the team as a unit, 2.4 by individuals, and 1.6 by small groups other than the full team.

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INTRODUCTION

BACKGROUND

General. Over the past several years, the all volunteer military has resulted in a reduction in manpower that has been offset by an intensive effort within the Army to improve the training of the individual soldier. Considerable progress has been made in improving the effectiveness of the soldier performing as an individual through such innovations as Training Extension Course (TEC) lessons and Skill Qualification Tests (SQTs). But there is another personnel training, selection, and management problem that is also very cirtical to the effectiveness of combat and combat support units that has not been systematically addressed - performance of soldiers as teams.

Although Boguslaw and Porter (Reference 1) describe a team as "...a collection of human individuals who work together to achieve a common goal," an Army team is more than a simple collective of soldiers. In the Army, a team is a relationship among indiviudal soldiers who employ specific procedures in order to interact with weapons, machines, and other Army personnel during the pursuit of the Army system objectives.

The Army Research Institute for the Behavioral and Social Sciences (ARI) is currently in the position of knowing that there are team problems, but of not knowing the nature and extent of these problems and not having a viable base in order to select the correct methods for resolving the problems. An Army-wide survey of teams is the necessary first step in addressing these information needs. Being able to select teams for research that have specific organizational, task, and system characteristics assures research on a desired set of variables with applicable results.

In order to identify the basic structure of Army teams, ARI has defined a programmatic research effort in the areas of team training requirements, team assessment, and team performance prediction. A problem arises, however, when researchers attempt to describe the unique element that distinguishes team-machine interaction from a single man-machine interaction (cf. Reference 2). Therefore, the initial step in this research effort was a demographic survey of Army teams. Litton Melionics, within the guidance from the Contracting Officer Technical Representative (COTR), defined an Army team after

reviewing various sources on team research as:

- A small group, usually 2 to 11 men, who normally perform their tasks in an interactive and interdependent manner. Position or member assignments within a team must be formally defined. The team members may be dedicated (e.g., tank crews) or designated (e.g., a tank killer or antiarmor squad). This means that ad hoc or informal, temporary teams (e.g., "take four men and scout that ridge") are not to be included in the present study.

The construction of the demographic survey instruments and an initial analysis of the results, detailed in this report, are a part of the Mellonics research support to ARI.

Purpose. The purpose of the survey was to provide an estimate of the extent to which team performance, as distinct from individual performance, is a significant part of Army operations. In addition, the survey identifies what types of teams exist and how these teams are distributed within and across Army branches. The survey provides a catalogue of teams and identifies their characteristics. The catalogue can be used to select specific team types for future research.

APPROACH

As originally envisioned, the survey was to be designed to identify all team situations (team organizational structure, critical and non-critical tasks, team member relationships, and individual/team performance standards and criteria), their numbers, and distributions throughout the Army combat and combat support systems in both the active and reserve components. After the research team appraised the stated objective, however, the need for its delimitation to manageable proportions was apparent. The resultant objective was a survey of combat and combat support Army teams of active components that have service schools. One exception was necessary. Because of the classified nature of military intelligence, the Military Intelligency branch was excluded from the survey. Thus, the following 13 subject areas were surveyed:

- Air Defense Artillery
- Armor
- Aviation

- Engineer
- Field Artillery
- Health Sciences
- Infantry
- Military Police
- Missile and Munitions
- Ordnance
- Quartermaster
- Signal
- Transportation.

The survey was conducted in two phases. In phase one, a questionnaire was developed and distributed to the 13 service schools. Based on tables of organization and equipment (TOEs), a subject matter expert at each school identified formal and informal teams by battalion and/or company TOE numbers. The information supplied comprised the following:

- team name
- total number of soldiers on the team
- position title of each team member
- rank of each member
- MOS of each member
- major equipment items
- major activities
- a rating of how established or emergent the team was.

All the raw data were ordered and placed into seven loose-leaf binders, Appendix A of this report. In addition, raw data were analyzed to establish a data base and obtain general descriptions of Army teams.

The second phase of the survey required the development of a second questionnaire that was distributed to a sample of the U. S. Army Forces Command (FORSCOM), i.e., operational units in the Army. This questionnaire identified what types of team training are required as well as problems associated with that training. Reduction and analysis of these data are planned for a future ARI report.

METHODOLOGY

Phase I. The Litton Mellonics staff, with COTR approval, developed both a service school team identification worksheet and questionnaire and a FORSCOM questionnaire with input from ARI's Research and Development Coordinator, Major Alexander Nicolini, Infantry. The service school team identification worksheet was simply a blank sheet that was used to identify a particular TOE and the teams within that TOE. (See Appendix B for an example of the identification worksheet.) The service school questionnaire was a description of each team identified in the worksheet. (See Appendix B for an example of the service school questionnaire.)

In addition to the team demographics, one question was included with the service school questionnaire that required a subjective rating by the respondents. Mellonics, with COTR agreement, deemed it necessary to distinguish between two types of team job activities and situations, established and emergent. Established situations are routine and the job activities consist of completely specified procedures. On the other hand, emergent situations tend to present relatively unique problems and the team must decide what activities to perform and how to perform them in order to solve the problem.

For Army teams, the research team agreed that the definitions for established activities would be very proceduralized tasks such as loading, aiming, and firing a cannon. Emergent activities were defined to be those activities performed in response to changing knowledge of the enemy threat. For example, rifle squads continually modify their activities in response to enemy activity. The concepts of established and emergent represented extremes of a single continuum. Some activities and situations are established, some emergent, and some are somewhere in between the two extremes. The respondents were instructed to select a phrase that best describes the general nature of the majority of job activities performed by the team they were rating. Respondents were instructed to use one of the following phrases to rate each of them:

- established
- more established than emergent

- about equa ly established and emergent
- more emergent than established
- emergent.

The FORSCOM questionnaire was constructed according to the goals of the ARI research program in team training. These goals required information input by a comprehensive questionnaire structured to answer the questions in Table 1. (The final revised FORSCOM questionnaire also is given in Appendix B.)

The initial questionnaires, in particular the FORSCOM questionnaire, were then reviewed by, and discussed with the Design Division, Directorate of Training Development in the U. S. Army Infantry School. The questionnaire was subsequently revised and then reviewed further by the Organization Branch, Directorate of Combat Development in the U. S. Army Infantry School.

The next step in the process required mailing of the materials to the 13 schools. The FORSCOM questionnaire was included for review by each school.

Each school was required to identify all teams in TOEs for which the school is the proponent. Upon completion of the identification worksheets, the schools were required to complete a demographic questionnaire on each team listed on the worksheets. (A complete description of the materials sent to schools, as well as a list of those schools, is given in Appendix C.)

The completed information was reduced by employing Version 6.50 of the Statistical Package for the Social Sciences (SPSS). (See Appendix D for the exact way data were encoded for reduction.) Twenty-four variables, given in Table 2, were analyzed in terms of frequencies and their descriptive statistics. Additional analyses are anticipated in future ARI reports. To assist that effort, two-way contingency tables were computed for 18 combinations of 10 variables.

Phase II. Upon completion of Phase I which included the review of the FORSCOM questionnaire, final revisions to the questionnaire were made. It was than distributed to FORSCOM units.

Distribution required the establishment of a sampling plan. Information obtained at the Fort Benning Adjutant General's office provided an estimate of the FORSCOM units of interest. Approximately 310 different TOE units in the 13 areas of interest were identified. They comprise:

Table 1

QUESTIONS USED TO DEVELOP FORSCOM QUESTIONNAIRE

- Does the team perform as a single cohesive unit, as some combination of subteams and individuals, or as a collection of individuals?
- To what extent is training to perform as an individual important?
- To what extent is training to perform as a team important?
- To what extent do changes in team composition modify team performance capability?
- How frequently does team membership change?
- How critical is the performance of this team (or team objective or task) to the success of battalion operations?
- To what extent a /are the details of procedure standardized?
- What makes this a team (or, team objective or task):
  - working together as a group?
  - interdependence with respect to inputs and outputs?
  - coordination requirements?
- During evaluations, is performance of this team evaluated as a complete and separate unit?
- During evaluations (e.g., ARTEP), if the team is evaluated as a unit, what criteria are used:
  - speed?
  - timeliness?
  - accuracy?
  - procedural errors?
  - coordination?
- Is the nature of team tasks dictated by equipment or by personnel interactions?

Table 2

VARIABLES FROM PHASE I OF THE ARMY TEAM SURVEY

Variable Name	Variable Description
BRANCH	Subject Area of Team
BNTOE	Battalion TOE Number
COTOE	Company TOE Number
SIZE	Size of Team
POSNUM	Number of Position Types
LDRRANK	Rank of Leader
RNKNUM	Number of Different Ranks (excluding the leader's)
LOWRANK	Lowest Rank
HIGHRANK	Highest Rank (excluding the leader's)
LDRMOS	Military Occupational Specialty (MOS) of Leader
MOSNUM	Number of MOS Types
DOMOS	Dominant MOS
DOMOS2	Second Dominant MOS (if bimodal)
SCNDLDR	Number of Secondary Leaders (if any)
SKL40	Number of Members with Skill Level 40 or Above
SKL30	Number of Members with Skill Level 30
SKL10	Number of Members with Skill Level 10
EQUIP	Number of Equipment Types
ACTIV	Number of Total Job Activities Performed

(continued)

Table . (concluded)

Variable Name	Variable Description
TMACT	Number of Job Activities Performed by Team Acting as a Unit
INDACT	Number of Job Activities Performed by Individuals
GRPACT	Number of Job Activities Performed by Small Groups within the Team
EMERESTB	Indication of the Emergent or Established Nature of the Team

All variables are those data points collected on each team.

- approximately 200 different company* types in approximately 60 different battalion* types,
- approximately 100 different separate company types, and
- approximately 10 different detachment types.

These types were represented by approximately 1420 units (approximately 580 battalions, 450 separate companies, and 390 detachments).

Based on the information obtained from the service schools, 204 TOEs were identified as active. From these, 109 were chosen as candidates for the present study. Excluded TOEs were those not in the selected subject areas, those currently being phased out, or command and control units. (Command and control units did not fit the goals of the ARI research effort.) A total of 738 battalions and separate companies was identified as active under the 204 TOEs and 480 of the total were covered by the 109 selected TOEs.

The final number of units that were selected for inclusion in the FORSCOM sample was 148 (68 battalions and 80 separate companies). The number of battalions and separate companies selected per TOE was determined on a proportionate basis that incorporated a 20% sample. The total number of units under each TOE was determined. Then, 20% of the total, rounded to the nearest unit, were chosen. Specific units were randomly selected with the restriction that only one unit per TOE was allowed for a given installation (e.g., the five infantry battalions under TOE 07-015H were drawn from separate installations instead of from the same division or installation). Table 3 gives the revised sampling plan and lists the installations that were contacted.

DATA

Requirements. As previously stated, Phase I was to produce a list of Army teams and demographic information on each team. Coordination with the U. S. Army Training and Doctrine Command (TRADOC) at Fort Monroe, Virginia established a point of contact at each of the 13 service schools. The point of contact had subject matter experts identify all teams in TOEs for which the school is the proponent. After that, each school was required to complete a questionnaire on each team that was identified. Mellonics compiled the data for computer reduction.

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*The word company is used to mean battery and troop, as well as, company. Battalion is used to represent both battalion and squadron.

Table 3

REVISED SAMPLING PLAN OF PHASE II OF
THE ARMY TEAM SURVEY

Installation	Number of Battalions	Number of Separate Companies	Number of Total Units
Fort Hood	8	7	15
Fort Bragg	10	12	22
Fort Ord	3	4	7
Fort Lewis	8	4	12
Fort Stewart/Hunter	2	1	3
Schofield Barracks	2	2	4
Fort Carson	4	3	7
Fort Riley	5	6	11
Fort Polk	4	2	6
Fort Campbell	10	7	17
Fort Bliss	4	3	7
Fort Benning	3	7	10
Fort Knox	2	4	6
Fort Richardson/ Wainwright	3	3	6
Fort Eustis	0	7	7
TOTAL	68	72*	140

* Eight separate companies were dropped from the sample because of logistics, i.e., each one was at a different installation from those listed above and their inclusion would have exceeded the time available to conduct the present survey.

Phase II required coordination with FORSCOM at Fort McPherson, Georgia. For this phase points of contact were established at 15 major installations. Each point of contact was required to complete questionnaires on teams that exist within units at his installation covered by TOE numbers supplied by Mellonics and ARI.

Collection. The focus of this report is the collection and analysis of school questionnaire data.

Of the 13 schools, 11 supplied the requested information. One school, the Military Police School, stated that according to the definition used, they had no teams and thus, completed no service school questionnaires The other school, the Academy of Health Sciences, prepared extensive team identification worksheets, but failed to complete descriptive questionnaires for each of the listed teams.

In order to provide for an unbiased survey, the research team agreed to allow each school to interpret the definition of team that was provided. Phone contacts were established with all schools for the purpose of insuring that each school had received all materials that had been sent it. The schools were permitted to ask questions for clarification purposes. In sum, each school handled the survey response in a slightly different manner.

Several schools only identified teams that were specific to the school's subject area. These were the following:

- Air Defense Artillery
- Aviation
- Missile and Munitions
- Ordnance
- Quartermaster
- Signal
- Transportation.

In particular, the Air Defense Artillery School said that most of their soldiers trained and performed as "sections" and not as teams. Apparently, the school felt that the organization of TOEs for which it is the proponent does not lend itself to a breakdown by teams, at least, according to the definition used in this study.

The Infantry School provided a unique interpretation in three areas - the rifle squad, the antitank section, and the scout section. For example, the rifle squad was used as a referent for one team. The school also said the rifle squad was composed of fire teams and machine gun teams. In other words, it was possible for one team member to belong to more than one team. The justification given was that sometimes the rifle squad is the team while at other times, it is the fire team or machine gun team that is the operational unit. This anomaly was not detected in any of the other service school teams.

Visual inspection of the data revealed that the team referent may have been too global for some teams. For example, Infantry described one "team" as the "Communication Teams". This single "team" of approximately 20 individuals appeared to be composed of several smaller teams. Without specific follow-up on these inconsistencies, it is impossible to know what the true team referent should have been. Time and resource constraints prevented follow-up clarifications. Thus, all responses were treated as final.

In addition to the Military Police School and the Academy of Health Sciences, one other school, the Signal School, did not provide complete information. All the teams identified on the team identification worksheets did not have corresponding team questionnaires. This was true for approximately half of the identified teams in the Signal School. This was noticed to a smaller extent in several other schools, i.e., one to five teams may not have had corresponding team questionnaires.

A final problem was missing data on several of the variables. Table 4 lists the variables and number of missing data cases.

Table 4

MISSING DATA

Variable Description	Missing Cases
Number of Equipment Types	52
Number of Total Job Activities	339
Number of Activities Performed by Team	339*
Number of Activities Performed by Individuals	339*
Number of Activities Performed by Group	339*
Indication of Team as Either Emergent or Established	299

* Data for these variables were available only when data for the Total Job Activity variable were available.

RESULTS AND DISCUSSION

RESULTS

Phase I produced team descriptions from 11 of the 13 schools that were contacted.

The service school questionnaires identified 1156 teams in 11 subject areas. These teams were then coded according to the 24 variables listed earlier and then summarized. Fourteen of the variables had ratio scales and are characterized by the descriptive statistics given in Table 5. (See Appendix E for the complete print-out of the 24 variables produced by the FREQUENCIES and CROSSTABS programs of SPSS.)

Service Subject Area. The four combat arms (Infantry, Armor, Air Defense Artillery, and Field Artillery) constituted 76% of the identified teams. The greatest number of teams was found in Field Artillery (374) while the least number was found in Missile and Munitions (12). Table 6 gives a summary of the service subject area data.

Battalion and Company TOEs. A total of 187 TOE numbers was delineated which was subsumed by 117 battalion or separate company TOE numbers. For both of these variables, the mode was an Armor TOE number. For the battalion TOE, two were found that had a total of 33 teams. In the company TOE, 17 teams were the greatest number found in any one of the identified TOEs.

Size. Including the one team with only one member, 85% of the teams were composed of 1-11 members. Table 7 presents a summary of the size variable. Teams were found to range in size from 1-61 members with the greatest number (253) being 3-man teams.

Position Types. Position types on teams ranged from 1-28, with 99% of the total number of teams having 15 or fewer position types. The most frequent (325 occurrences) was the 3-position team.

Rank Types. Rank types ranged from zero to seven when the leader was excluded, 393 teams were found to have two different ranks.

MOS Types. Over half of the teams, 59% (682), were homogeneous according to MOS type. In all, teams ranged in composition from all individuals having the same MOS to a maximum of 22 different MOS types.

Table 5

DESCRIPTIVE STATISTICS FOR THE FOURTEEN RATIO SCALED VARIABLES

Variable	Mode*	Mean	Standard Deviation	Range
Size	3(253)	6.694	6.451	1-61
Position Types	3(325)	4.317	2.828	1-28
Rank Types	2(393)	2.526	1.229	0-7
MOS Types	1(682)	2.004	1.911	1-22
Secondary Leaders	0(781)	.477	.85	0-6
Number with Skill Level 40 or above	0(705)	.544	1.389	0-37
Number with Skill Level 30	0(651)	.614	1.011	0-15
Number with Skill Level 20	1(584)	1.902	2.522	0-22
Number with Skill Level 10	2(252)	3.177	4.083	0-40
Equipment Types**	1(302)	3.896	3.833	1-49
Job Activities (Total)**	1(393)	4.913	5.283	1-23
Job Activities (Team)**	1(445)	1.010	1.388	0-8
Job Activities (Individual)**	0(473)	2.416	4.696	0-50
Job Activities (Small Group)**	0(628)	1.565	3.588	0-18
Emergent-Established Scale**	1(424)	1.912	1.118	----

Number in parentheses is the number of teams with that mode.

Data contain missing values.

Table 6

TEAM FREQUENCIES BY SERVICE SUBJECT AREA

Service Subject Area	Number	Relative Frequency	Cumulative Frequency
Infantry	191	16.5%	16.5%
Armor	289	25.0%	41.5%
Air Defense Artillery	24	2.1%	43.6%
Field Artillery	374	32.4%	76.0%
Engineer	58	5.0%	81.0%
Quartermaster	25	2.2%	83.2%
Missile and Munitions	12	1.0%	84.2%
Aviation	19	1.6%	85.8%
Ordnance	30	2.6%	88.4%
Transportation	15	1.3%	89.7%
Signal	119	10.3%	100.0%
TOTAL	1156	100.0%	

Table 7

TEAM FREQUENCIES BY SIZE OF TEAM

Number of Members	Absolute Frequency	Relative Frequency	Cumulative Frequency
1	1	.1%	.1%
2	183	15.8%	15.9%
3	253	21.9%	37.8%
4	159	13.8%	51.6%
5	103	8.9%	60.5%
6	104	9.0%	69.5%
7	37	3.2%	72.7%
8	45	3.9%	76.6%
9	44	3.8%	80.4%
10	20	1.7%	82.1%
11	44	3.8%	85.9%
over 11	163	14.1%	100.0%
TOTAL	1156	100.0%	

Secondary Leaders. Sixty-seven percent (761) of the 1156 teams did not have any secondary leaders.

Skill Level. Over half of the teams, 61% (705), had no member with a skill level 40 or above. In fact, 31.4% (363) have only a single member with a skill level 40 or above.

It was found that 56.3% (651) of Army teams have no members with a skill level 30 and 34.8% (402) have only one member at a 30 skill level. For skill level 20, there are 167 (14.4%) teams that have no members with the skill. There are, however, 50.5% (584) that have only one member with the skill level. In contrast, there are 924 (79.9%) teams with four or fewer members with skill level 10.

Equipment Types. Major pieces of equipment appear to be small in number for teams since 1070 (96.9%) teams use 10 or fewer.

Activities. Of the total number of activities reported, 54.5% of the teams perform one activity as a team unit, 57.9% have no activities performed by indivicuals, and 77.5% have no activities performed by groups smaller than the team.

Established-Emergent. With 857 teams of the 1156 reported, 76.1% were either established or more established than emergent (49.5%, the mode, were rated as established). The mean was 1.912, i.e., Army teams are more established than emergent.

Distribution of Rank. The rank of the team leader varied from E3 to O4, with most teams (32.4%, 374) having an E5 as a leader. The lowest rank on the team varied from E3 to WO, but was an E3 for most teams (70.0%, 809). Excluding the leader, the highest rank varied from E3 to O3 with E4 being the highest rank after the leader (37.5%, 434).

MOS Distribution. Leader MOSs were widely distributed throughout the 1156 teams. One hundred ninety-nine different MOSs (including skill level designation) were identified. Table 8 presents the top five leader MOSs and the top five dominant MOSs of the team. There were only 45 teams that had two dominant MOSs, i.e., these teams had two MOSs with the same number of members possessing one or the other.

Contingency Tables. The study team concluded that future analyses would require guidance in determining which combinations of variables would offer the best understanding of team structure. Thus, the CROSSTABS program of SPSS was used to develop 18 two-way contingency

Table 8

MOS DISTRIBUTION

Leader MOS	Absolute Frequency	Relative Frequency
13A00	47	4.1%
63B30	44	3.8
94B40	41	3.5%
94B30	40	3.5%
13Y5M	38	3.3%

Dominant MOS	Absolute Frequency	Relative Frequency
94B	87	7.5%
63B	69	6.0%
11B	66	5.7%
76Y	58	5.0%
13E	50	4.3%

tables of 10 variables. Table 9 provides a list of the 10 tables that were generated These tables, given in Appendix E, will provide ARI with a preliminary overview, from which to formulate more extensive and comprehensive analyses. Because of the preliminary nature of these data, however, no report or discussion of these tables is given.

DISCUSSION

The demography of Army teams, as described in the Results section, is evident. The data document what was intuitive for quite some time. The average Army team has 6.7 members who fill 4.3 positions, has 2.5 ranks represented with members categorized under 2.0 MOSs. Each tema has 0.5 members with skill level 40 or above, 0.6 with skill level 30, 1.9 with skill level 20, and 3.1 with skill level 10. The team uses 3.9 pieces of equipment while perfroming 4.9 activities of which 10. is performed by the team as a unit, 2.4 by individuals, and 1.6 by small groups other than the full team. The team tends to be more established than emergent.

Typically, the rank of the team leader is E5, but more often, he or she possesses an officer MOS - 13A00. Rank representation on the team ranges from E3 to E4, excluding the leader. Team homogeneity is represented by a 94B MOS in most cases.

It is apparent from the plethora of information gathered from the service school survey effort, many more analyses of the data will be possible. First, however, it would be useful if data inconsistencies were eliminated by follow-up communication with the respondents. Then when this survey information is correlated with the FORSCOM survey, the potential for full documentation of the structure and activities of Army teams will be enhanced.

Table 9

CONTINGENCY TABLES - COMBINATIONS OF VARIABLES

SIZE by RNKNUM
SIZE by SCNDLDR
SIZE by EMERESTB
SIZE by SKL40
SIZE by SKL30
POSNUM by RNKNUM
POSNUM by SCNDLDR
POSNUM by EMERESTB
POSNUM by ACTIV
SKL40 by ACTIV
SKL40 by EMERESTB
SKL30 by ACTIV
SKL30 by EMERESTB
SKL20 by ACTIV
SK_20 by EMERESTB
SKL10 by EMERESTB
SCNDLDR by ACTIV
EMERESTB by ACTIV

EFERENCES

1. Boguslaw, R. & Porter, E. H. Team functions and training. In R. M. Gagne's (ed.) Psychological principles in system development, New York: Holt, Rinehart, and Winston, 1962.

2. Meister, D. Behavioral foundations of system development. New York: John Wiley & Sons, Inc., 1976.

APPENDIX A

RAW DATA

(Bound separately in seven volumes and was only issued with the original copy of the report.)

APPENDIX B

WORKSHEET AND QUESTIONNAIRES

Exhibit B-1. Team Identification Worksheet distributed to school personnel for purpose of obtaining a listing of teams by TOE number.

Team Identification Worksheet

TOE number: _____

Platoon or Section
(enter plat or sec
the team is found in)

Team Name(s)
(enter all names formal and informal)

Exhibit B-2. Team Questionnaire For School Personnel. Service school personnel were instructed to complete one questionnaire for each item listed on the Team Identification Worksheet.

TOE Number: _____

TEAM QUESTIONNAIRE FOR SCHOOL PERSONNEL

(fill in one questionnaire for each team)

TEAM NAME: _____

1. List each team member by position (title or function) and provide the information requested for each member.

Position	Authorized Rank	Authorized MOS	Major Equipment

2. Given the battalion is engaged in a defensive mission (for example, the defense mission in ARTEP 7-15), describe the major job activities performed by the team to accomplish the team's part of the battalion mission. Identify, for <u>each</u> of these job activities, the team members (<u>e.g.</u>, individual members or subteams) who usually perform the activity by entering their position(s) in the column on the right. If the <u>entire</u> team usually performs the task, enter "team" in this column.

JOB ACTIVITIES	WHO PERFORMS THE ACTIVITY

3. Investigators involved in team research have found it useful to distinguish between two types of team job activities and situations:

   a. established: the situations are routine and the job activities consist of completely specified procedures.

   b. emergent: each situation tends to present a relatively unique problem; the team must decide what activities to perform and how to perform them in order to solve the problems.

For Army teams, established activities consist of very proceduralized tasks like loading, aiming and firing a cannon. Emergent activities are performed usually in response to changing knowledge of the enemy threat. For example, rifle squads continually modify their activities in response to enemy activity. The concepts of established and emergent actually represent extremes of a single continuum. Some activities and situations are established, some emergent, and some are somewhere in between two extremes.

Select the phrase listed below which best describes the general nature of the majority of job activities performed by this team.

___ Established

___ More established than emergent

___ About equally established and emergent

___ More emergent than established

___ Emergent

4. Please list any source documents, field manuals, TMs, ARTEPs, studies or other publications which can be used to obtain information about this team.

Exhibit B-3. Army Team Operations Survey - Unit Questionnaire Package (Instruction Booklet). Each FORSCOM unit that was part of the sample was given one Instruction Booklet. There were four versions of pages three, one for each of the four types of organizational units in the Army. There were 13 versions of page four (a list of team types), one for each of the 13 service schools.

Instruction Booklet ____

1-5

This package is for teams in units organized under the following TOE:

6-13

ARMY TEAM OPERATIONS SURVEY

UNIT QUESTIONNAIRE PACKAGE

This survey will provide the U.S. Army with information defining the characteristics, training/evaluation requirements, and problems of operational teams (crews, groups, squads, elements, etc.) in the basic branches.

This information will be used to develop methods of better meeting team training and evaluation requirements and resolving team problems to improve operational effectiveness.

Please answer the following questions about yourself. This information will be used for administrative and statistical control purposes.

- Name: _____ (Last, First, Middle)
- What is your current position? _____
- What is your rank? _____
- What is your unit? _____ (Full designation: e.g., Co A, 1st Bn, 3rd Inf.)
- What is your Autovon telephone number at which you can be contacted if clarification of your answers is necessary? _____

U.S. Army Research Institute for the Behavioral and Social Sciences
Fort Benning Field Unit

DATA REQUIRED BY THE PRIVACY ACT OF 1974

TITLE: Army Team Operations Survey

PRESCRIBING DIRECTIVE: AR 70-1

AUTHORITY: 10 USC Sec 4503

PURPOSE(S): The data collected with the attached forms are to be used for research purposes only.

This is a survey instrument developed by the U.S. Army Research Institute for the Behavioral and Social Sciences pursuant to its research mission as prescribed in AR 70-1.

Your participation in this research is voluntary and you are encouraged to provide complete and accurate information. Several of these questionnaire response items require judgments. Please make these judgments to the best of your ability.

POINT OF CONTACT FOR THE ARMY RESEARCH INSTITUTE: If you have any questions about this survey (interpretation of questions, etc.), please call or write:

Ms. Dorothy L. Finley
Army Research Institute
P.O. Box 2086
Fort Benning, GA 31905
Autovon 835-5589/3617

WHEN YOU ARE FINISHED WITH THESE QUESTIONNAIRES, RETURN THE ENTIRE PACKAGE TO THE INSTALLATION, DIVISION, OR OTHER LOCAL POINT OF CONTACT FOR THIS SURVEY.

Several copies of the team questionnaire are enclosed with this instruction booklet. Fill in one questionnaire for each team which is found in the company in your battalion which is organized under the TOE number listed on the upper right corner of the first page of this booklet. If there is more than one company of this type in your battalion (for example, rifle companies in an infantry battalion), select only one of them (the most representative) for use in this survey.

- How many companies in your battalion are organized under this TOE? . . . . . [ ] 14
- What is the current assigned strength for the company which you selected for this survey? . . . . . [ ] 15-17

INSTRUCTIONS FOR INDENTIFYING TEAMS

To help you specify teams within this unit, a list of teams is provided on the next page. This list was generated by personnel in the TRADOC school which has proponency for the TOE under which the unit is organized. The list includes all the teams which they identified, on a preliminary basis, for selected units in your branch.

Select the teams from the list which can be found in the unit and fill in one of the attached questionnaires for each team. Be sure to list each team's name in the space provided in the upper right corner of each questionnaire. Answer the questions in terms of your experience with the teams in your unit.

After you have finished with the teams on the list, identify any additional teams in the unit which were not on the preliminary list and fill out a separate questionnaire for each of these teams. Again, be sure to insert the name of each team in the upper right corner. Since the term "team" is used in many different ways in various branches of the Army, it is necessary to define "team" so that the use of the term will be consistent across branches:

(a) A "team" is a small group of individuals (smaller than platoon size) who interactively perform coordinated job activities.

(b) Position or member assignments within a "team" must be formally defined on a relatively permanent basis. This means that ad hoc or informal, temporary teams (e.g., "take four men and scout that ridge") are not to be included in the present study.

(c) We are also not interested in teams which mainly perform command and control (staff functions above platoon level

Several copies of the team questionnaire are enclosed with this instruction booklet. Fill in one questionnaire for each team found in the battery in your battalion which is organized under the TOE number listed in the upper right corner of the first page of this booklet. If there is more than one battery of this type in your battalion (e.g., field artillery batteries in a field artillery battalion), select only one of them (the most representative) for use in this survey.

- How many batteries in your battalion are organized under this TOE? . . . . . ☐ 14
- What is the current assigned strength for the battery which you selected for this survey? . . . . . ☐☐ 15-17

INSTRUCTIONS FOR INDENTIFYING TEAMS

To help you specify teams within this unit, a list of teams is provided on the next page. This list was generated by personnel in the TRADOC school which has proponency for the TOE under which the unit is organized. The list includes all the teams which they identified, on a preliminary basis, for selected units in your branch.

Select the teams from the list which can be found in the unit and fill in one of the attached questionnaires for each team. Be sure to list each team's name in the space provided in the upper right corner of each questionnaire. Answer the questions in terms of your experience with the teams in your unit.

After you have finished with the teams on the list, identify any additional teams in the unit which were not on the preliminary list and fill out a separate questionnaire for each of these teams. Again, be sure to insert the name of each team in the upper right corner. Since the term "team" is used in many different ways in various branches of the Army, it is necessary to define "team" so that the use of the term will be consistent across branches:

(a) A "team" is a small group of individuals (smaller than platoon size) who interactively perform coordinated job activities.

(b) Position or member assignments within a "team" must be formally defined on a relatively permanent basis. This means that ad hoc or informal, temporary teams (e.g., "take four men and scout that ridge") are not to be included in the present study.

(c) We are also not interested in teams which mainly perform command and control staff functions above platoon level.

Several copies of the team questionnaire are [illegible] this instruction booklet. Fill in one questionnaire for each team found in the troop in your squadron which is organized under the TOE number listed in the upper right corner of the questionnaire. If there is more than one troop of this type in your squadron (e.g., two armored cavalry troops in an armored cavalry squadron) select only one of them (the most representative) for use in this survey.

• How many troops in your squadron are organized under this TOE?	14
• What is the current assigned strength for the troop which you selected for this sur[illegible]	15-17

INSTRUCTIONS FOR IDENTIFYING TEAMS

To help you specify teams within this unit, a list of teams is provided on the next page. This list was generated by personnel in the TRADOC school which has proponency for the TOE under which the unit is organized. The list includes all the teams which they identified, on a preliminary basis, for selected units in your branch.

Select the teams from the list which can be found in the unit and fill in one of the attached questionnaires for each team. Be sure to list each team's name in the space provided in the upper right corner of each questionnaire. Answer the questions in terms of your experience with the teams in your unit.

After you have finished with the teams on the list, identify any additional teams in the unit which were not on the preliminary list and fill out a separate questionnaire for each of these teams. Again, be sure to insert the name of each team in the upper right corner. Since the term "team" is used in many different ways in various branches of the Army, it is necessary to define "team" so that the use of the term will be consistent across branches:

(a) A "team" is a small group of individuals (smaller than platoon size) who interactively perform coordinated job activities.

(b) Position or member assignments within a "team" must be formally defined on a relatively permanent basis. This means that ad hoc or informal, temporary teams (e.g., "take four men and scout that [illegible]") are not to be included in this present study.

(c) Teams are not intended to be those which mainly perform [illegible] control and staff functions at the platoon level.

Several copies of the questionnaire are enclosed with this instruction booklet. Fill in one questionnaire for each team found in your unit. Check the lot number which is listed in the upper right corner of the first page of this booklet to insure that you have the survey which was designed for your unit. ☐ 14

• What is the current assigned strength for your unit? . . . . . ☐☐☐ 15-17

INSTRUCTIONS FOR IDENTIFYING TEAMS

To help you specify teams within this unit, a list of teams is provided on the next page. This list was generated by personnel in the TRADOC school which has proponency for the TOE under which the unit is organized. The list includes all the teams which they identified, on a preliminary basis, for selected units in your branch.

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(a) A "team" is a small group of individuals (smaller than platoon size) who interactively perform coordinated job activities.

(b) Position or member assignments within a "team" must be formally defined on a relatively permanent basis. This means that ad hoc or informal, temporary teams ("_ _ , take four men and scout that ridge") are not to be included in the present study.

(c) We are also not interested in teams which mainly perform command and control and staff functions above platoon level.

AIR DEFENSE

ACQUISITION RADAR SECTION

FIRE DISTRIBUTION SECTION

FIRE DISTRIBUTION SUPPORT SECTION

POWER - AIR CONDITIONER SUPPORT SECTION

IMPROVED HAWK MECHANICAL SUPPORT SECTION

ELECTRONICS AND RADAR SUPPORT SECTION

SUPPORT PLATOON HQS.

SECURITY SECTION

ELECTRONICS SECTION

COMMAND - ACQUISITION SECTION

FIRING SECTION

ASSEMBLY SERVICE MAINTENANCE SECTION

MISSLE GROUND HANDLING SUPPORT SECTION

GROUND GUIDANCE EQUIPMENT SUPPORT SECTION

RADAR SECTION

PLATOON SUPPORT SECTION

FIRING SECTION - TOWED

FIRE CONTROL SECTION

SYSTEM MAINTENANCE SECTION

VULCAN SQUAD

CHAPARRAL SQUAD

MISSLE GROUND HANDLING EQUIPMENT SUPPORT SECTION

ENGINEER SECTION

ARMOR

AMBULANCE TEAM

MEDICAL AIDMAN TEAM

CLINICAL SP TEAM

RATT TEAM

TRACK VEHICLE MECH TEAM

FOOD SERVICE OR MESS TEAM

AMMO HANDLER TEAM

RECOVERY TEAM

TANK TURRET MECH TEAM

WELDER TEAM

TANK CREW (M551)

REDEYE TEAM

GROUND SURVEILLANCE RADAR CREW

SCOUT SQUAD

HEAVY MORTAR SQUAD

TANK CREW (M60A1)

COMMO TEAM

AVLB TEAM

FIELD MAINT EQUIPMENT MECH TEAM

ATTACK HELICOPTER CREW

OBSERVATION CREW

AIRFRAME REPAIRMAN TEAM

AH HELICOPTER REPAIRMAN TEAM

AIRCRAFT TURB ENGINE REPAIRMAN TEAM

TRANSPORT CREW

UH-1 HELICOPTER REPAIRMAN TEAM

OH HELICOPTER REPAIRMAN TEAM

AEROSCOUT CREW

RECONNAISSANCE (AERORIFLE) SQUAD

AEROWEAPONS CREW

AVIONICS MECH TEAM

WHEELED VEHICLE MECH TEAM

AH-16 REPAIRMAN TEAM

AIRCRAFT ARMAMENT MECH TEAM

AIRCRAFT FUEL HANDLER'S TEAM

UH-1 HELICOPTER CREW

RADIO OPERATOR TEAM

RIFLE SQUAD

POWER GENERATOR OP/MECH TEAM

AH-1G MECH TEAM

UH-1 MECH TEAM

AIRCRAFT ROTOR REPAIRMAN TEAM

AIRMOBILE SCOUT SQUAD

ANTITANK (TOW) TEAM

RADAR OPS TEAM

SGL TURB ENGINE REPAIRMAN TEAM

AIRCRAFT FIRE CONTROL REPAIRMAN TEAM

RCN SQUAD

RADIO OP TEAM

POWER TRAIN REPAIRMAN TEAM

AVIATION

ATC TOWER

GCA

U-21 FLIGHT CREW

UH-1 CREW

AH-1G CREW

CH-47 CREW

CH-54 CREW

OV-1B CREW

OV-1C CREW

CONTROL TOWER

FIRE/CRASH RESCUE

FLIGHT OPERATIONS CENTER/FLIGHT
COORDINATION CENTER TEAM

ENGINEER

MAINTENANCE SECTION

MEDICAL SECTION

MESS SECTION

RADIO TELETYPE TEAM

ENGINEER SQUAD

MAINTENANCE TEAM

MESS TEAM

COMMD SECTION

PIPELINE CONSTRUCTION SQUAD

COMMD TEAM

BRIDGE SECTION

MAB CREW

CEV CREW

CONSTRUCTION SQUAD

HEAVY RAFT SECTION

AVLB CREW

FIRE FIGHTING TEAM

GEODETIC SURVEY TEAM

PIPELINE CUTTERHEAD TEAM

HOPPER OPERATION TEAM

FIELD ARTILLERY

HQ S SUPPORT SEC

MESS SEC

MAINTENANCE SEC

COMMUNICATIONS SEC

FORWARD OBSERVER SEC

FIRE DIRECTION CENTER

HOWITZER SEC

AMMUNITION SEC

COMMUNICATIONS-ELECTRONICS SEC

SURVEY SEC

FIRING SEC

ASSEMBLY-TRANSPORTATION SEC

BATTERY CONTROL CENTER SEC

SUPPORT PLATOON

WIRE SEC

RADIO SEC

SECURITY SEC

COUNTER MORTAR RADAR SEC

AIR DEFENSE SEC

BATTALION SUPPLY SEC

BATTALION MAINTENANCE SEC

BATTERY HQ'S SEC

MEDICAL SEC

OPERATIONS/FIRE DIRECTION SEC

SURVEILLANCE SEC

MET SEC

HQ'S/SVC BATTERY MESS SEC

FIRING BATTERY MESS TEAM

SURVEY INFORMATION SEC

COMMUNICATIONS CENTER SEC

MICROWAVE SEC

BATTALION SUPPLY & MAINTENANCE SEC

BATTALION AMMUNITION SEC

BATTERY HQ'S SUPPORT SEC

BATTERY MAINTENANCE SEC

ELECTRONICS-MECHANIC SEC

ELECTRONICS-CONTROL SEC

TECHNICAL SUPPLY SEC

SUPPORT EQUIPMENT MAINTENANCE SEC

COMMUNICATION MAINTENANCE SEC

AMMUNITION SECURITY SEC

AVIATION SEC

AIRCRAFT MAINTENANCE SEC

RADIO/TELETYPE SEC

FLIGHT OPERATIONS SEC

DIRECT SUPPORT AIRCRAFT MAINTENANCE SEC

DIRECT SUPPORT SEC

GENERAL SUPPORT SEC

SUPPLY
MAINTENANCE SECTION (AKA MOTOR POOL SECTION)
AIR AMBULANCE CREW
FLIGHT OPERATIONS SECTION
AIRCRAFT MAINTENANCE SECTION
DINING SECTION (AKA FOOD SERVICE SECTION)
AMBULANCE CREW (TEAM)
OPERATING ROOM (OR) TEAM (AKA SURGICAL TEAM)
DENTAL TEAM
LITTER (BEARER) TEAM
EMERGENCY MEDICAL TEAM (EMT) (AKA EMERGENCY RECEIVING/ DISPOSITION AREA, OUTPATIENT TREATMENT)
WARD (TEAM)
COMMUNICATIONS SECTION
ADMINISTRATIVE AND DISPOSITION (A&D) SECTION (AKA PATIENT ADMINISTRATION DIVISION)
MEDICAL SUPPLY SECTION
CENTRAL MATERIEL SUPPLY (CMS)
INTENSIVE CARE WARD (TEAM)
INTERMEDIATE CARE WARD (TEAM)
MINIMAL CARE WARD (TEAM)
PHARMACY
LABORATORY
X-RAY
AIR TRAFFIC CONTROL
APPROACH CONTROL
AIRFIELD SERVICE SECTION
MOTOR MAINTENANCE SECTION
ORG ACFT MAINTENANCE SECTION
IS ACFT MAINTENANCE SECTION
AIRCRAFT MAINTENANCE SECTION
STOCK CONTROL
QUALITY CONTROL
RECEIVING/SHIPPING
STORAGE/ISSUE
LOCATOR AND DOCUMENT CONTROL
MEDICAL MAINTENANCE
OPTICAL FABRICATION DIVISION
HOSPITAL LAUNDRY
RADIOLOGY
UNIT SUPPLY SECTION
ORAL SURGERY
SURVEY TEAM
CONTROL TEAM
DISPENSARY TEAM
MENTAL HYGIENE SECTION
CONVALESCENT CARE WARD(S)
INTENSIVE CARE WARD(S)
INTERMEDIATE CARE WARD(S)
MINIMAL CARE WARD(S)
WARDS (VARYING TYPES)
REMOVABLE PROSTHETICS
FIXED PROSTHETICS
TEAM BB - MEDSOM SPT
TEAM BC - MED SUP (LG)
TEAM BD - INV CONTROL (SM)
TEAM BE - MED INV CONTROL (LG)
TEAM EA - MED EQUIP MAINT (SM)
TEAM EB - MED EQUIP MAINT (MED)
TEAM EC - MED EQUIP MAINT (LG)
TEAM GA - SPECTACLE FAB (SM)
TEAM GP - SPECTACLE FAB (LG)
TEAM PF - PATIENT REC/REP
TEAM LB - ENVIRONMENTAL SANITATION
TEAM LC - ENVIRONMENTAL ENGR SVC
TEAM LD - EPIDEMIOLOGY
TEAM LE - ENTOMOLOGY LAB
TEAM NA - BLOOD PROCESSING
TEAM NB - BLOOD COLLECTING
TEAM QC - OUTPATIENT SVC
TEAM SF - INTENSIVE CARE WARD
TEAM SG - INTERMEDIATE CARE WARD
TEAM SH - MINIMAL CARE WARD
TEAM SI - CONVALESCENT CARE WARD
TEAM SJ - CMS
TEAM KA - SURG
TEAM KB - ORTHO
TEAM KC - SHOCK - INT CARE
TEAM KD - MAXILLOFACIAL
TEAM KE - NEURO SURG
TEAM KF - THORACIC
TEAM KG - ANNESTHESIOLOGY
TEAM KH - OPTHAL
TEAM KI - ENT
TEAM LL - DERMATOLOGY
TEAM LM - MED TREAT (CHEM AG)
TEAM LN - RENAL-ELEC MET
TEAM HE - CENTRAL DENTAL LAB
TEAM JA - VETERINARY SVC (SM)
TEAM JB - VETERINARY SVC (LG)
TEAM JC - VETERINARY SMALL ANIMAL DISP
TEAM JD - VETERINARY SMALL ANIMAL HOSP

[redacted]

RADIO TEAM

WIRE TEAM

MESSAGE CENTER

TRANSPORTATION SEC

SUPPLY SEC

MESS TEAM/SEC

BN MAINT PLAT

AID STAT SEC

EVAC SEC

SUPPLY/TRANS SEC

CONSOLIDATED MESS

AID STAT/EVAC SEC

COMMO SEC

BN FOOD SVC SEC

MAINT SEC

RIFLE PLAT HQ

M60-MG TEAM

RIFLE SQUAD

81mm MORT SQUAD

81mm MORT SEC HQ

ANTIARMOR SQUAD (TOW)

SNIPER TEAM

MAINT TEAM

SCOUT SQUAD

HVY MORT PLAT HQ

HVY MORT SQUAD

ANTIARMOR SQUAD

REDEYE TEAM

FLIGHT OPERATIONS SEC

AIR TRAFFIC CONTROL PIT HQ

FLIGHT COORDINATION CTR

AIRFIELD TERMINAL CONTROL SEC

PATHFINDER TEAM

AIRLIFT SEC

WEAPONS SEC

AIRCRAFT ORG MAINT SEC

AIRFIELD SVC SEC

AIRFIELD DS MAINT SEC

ARMED HELICOPTER SEC

AIRCRAFT ARMT REPAIR SEC

UTILITY SUPPORT SEC

LAISON SEC

SURVEILLANCE SEC

SUPPORT SEC

MILITARY POLICE

M60 MACHINEGUN

90mm RECOILESS RIFLE

.50 CAL. MACHINEGUN

MISSILE AND MUNITIONS

SECURITY SQUAD

TEAM FB - EOD TEAM - CONVENTIONAL AUG

TEAM FC - EOD TEAM - NUCLEAR AUG

TEAM FD - EOD TEAM - TOXIC CHEM AUG

TEAM FE - EOD TEAM - VIP SUPPORT AUG

TEAM BA - TECHNICAL SUPPLY TEAM

TEAM EB - MSL. MAINT SHOP CONTROL TEAM

TEAM EC - LCSS TEST EQUIPMENT DS/GS TEAM

TEAM ED - TOW/DRAGON MSL MAINT DS/GS TEAM

TEAM EE - SHILLELAGH MSL MAINT DS/GS TEAM

TEAM EF - REDEYE MSL MAINT DS/GS TEAM

TEAM EG - LANCE MSL MAINT DS/GS TEAM

TEAM EK - CHAPPARAL/VULCAN ELET/FAAR MAINT DS/GS TEAM

TEAM FA - DECONTAMINATION (BDE)
TEAM FB - DECONTAMINATION (DIV)
TEAM JA - CBR ELEMENT (ONE SHIFT)
TEAM JB - CBR ELEMENT (TWO SHIFTS)
TEAM KA - CBR SAMPLING AND ANALYSIS
TEAM LA - CBR RECONNAISSANCE
TEAM LB - CBR RECONNAISSANCE (SPECIAL)
TEAM NA - MECHANIZED FLAME (BN)
TEAM NB - MECHANIZED FLAME (DIV)
TEAM OA - CBR STAFF
TEAM PA - CHEMICAL COMBAT SUPPORT
MOBILE MAINTENANCE
TEAM BA - COMMUNICATIONS AND ELECTRONICS MAINTENANCE
TEAM DB - POWER GENERATION EQUIPMENT MAINTENANCE
TEAM DC - ENGINEER EQUIPMENT MAINTENANCE
TEAM DD - MATERIALS HANDLING EQUIPMENT MAINTENANCE
TEAM DE - MOTOR SERGEANT
TEAM DF - WHEEL VEHICLE MAINTENANCE
TEAM DG - TRACK VEHICLE MAINTENANCE
TEAM DH - WHEEL/TRACK VEHICLE MAINTENANCE
TEAM DI - AUTOMOTIVE MAINTENANCE (WHEEL)
TEAM DJ - AUTOMOTIVE MAINTENANCE (TRACK)
TEAM DK - AUTOMOTIVE MAINTENANCE (WHEEL)
TEAM DL - AUTOMOTIVE MAINTENANCE (TRACK)
TEAM DM - QM HEAVY EQUIPMENT MAINTENANCE
TEAM EA - FUEL/ELECTRICAL SYSTEMS REPAIR
TEAM EB - FIELD ARTILLERY REPAIR
TEAM EC - TURRET ARTILLERY REPAIR
TEAM ED - AUTOMOTIVE REPAIR TRACK/WHEEL
TEAM EE - FIRE CONTROL INSTRUMENT REPAIR
TEAM EF - MACHINE SHOP SUPPORT
TEAM EG - AUTOMOTIVE REPAIR
TEAM EH - TURRET ARTILLERY REPAIR (GS)
TEAM EI - FIELD ARTILLERY REPAIR (GS)
TEAM EJ - MAINTENANCE SUPPORT
TEAM EK - MAINTENANCE SUPPORT
TEAM EL - CONSTRUCTION EQUIPMENT REPAIR
TEAM EM - SMALL ARMS REPAIR
TEAM EN - CHEMICAL EQUIPMENT REPAIR
TEAM EO - POWER GENERATION REPAIR
TEAM EP - TIRE REPAIR
TEAM EQ - REFRIGERATION REPAIR - MOBILE
TEAM ER - MECHANICAL AND METAL REPAIR
TEAM ES - METAL BODY AND WELDING REPAIR
TEAM ET - AUTOMOTIVE REPAIR SUPERVISOR
TEAM EU - SMALL ARMS REPAIR
TEAM EV - AUTOMOTIVE REPAIR

QUARTERMASTER

FARE TEAM

FSSP TEAM

LAUNDRY TEAM

DECONTAMINATION TEAM

BAKERY TEAM

BATH TEAM

SIGNAL

C-E MAINTENANCE TEAM
CABLE TEAM
TEL COMMUNICATION CENTER TEAM
(AKA COMM CENTER TEAM)
MESSENGER TEAM
RADIO WIRE INTEGRATION (RWI) TEAM
RADIO TELETYPEWRITER (RATT) TEAM
(AKA AM VOICE TEAM, AM SINGLE-SIDEBAND TEAM, HF TEAM)
MANUAL CENTRAL OFFICE TEAM
(AKA SWITCHBOARD TEAM)
WIRE TEAM
SWITCHBOARD TEAM
MESSAGE CENTER TEAM
TAC RELAY SECTION TEAM
MULTICHANNEL COMMUNICATIONS TEAM (AKA VHF TEAM RADIO RELAY TEAM, RADIO TERMINAL TEAM, RADIO REPEATER TEAM, LINE OF SITE TEAM, CABLE REPEATER TEAM, FDM TEAM, PCM TEAM, CARRIER TEAM, MULTIPLEXER (MUX) TEAM, TELEPHONE TERMINAL TEAM, UHF TEAM)
TACTICAL MICROWAVE TEAM
MULTIPLEX TERMINAL TEAM
TELEPHONE REPEATER TEAM (AKA CABLE ATTENDED REPEATER TEAM)
RADIO RELAY TEAM CHIEF
POLE LINE TEAM
CABLE SPLICING TEAM
TELEPHONE SWITCHBOARD TEAM
PHOTO TEAM
TACTICAL CIRCUIT CONTROL TEAM
MANUAL CENTRAL OFFICE TEAM
RADIO TEAM (AKA AM RADIO TEAM)
CIRCUIT CONTROL TEAM
PHOTOGRAPHIC LAB TEAM
VOICE TEAM
FM TEAM
SIGNAL MAINTENANCE TEAM
FIXED STATION RF RADIO TEAM
MICROWAVE RADIO TEAM
MULTIPLEXER TERMINAL TEAM
TELETYPEWRITER RELAY TEAM
TELETYPEWRITER SWITCHING TEAM
TROPOSPHERIC [illegible] (AKA TROPO TEAM)
FIXED STATION TECHNICAL CONTROL TEAM
CARRIER REPEATER TEAM
MULTICHANNEL TERMINAL TEAM
COMSEC REPAIR TEAM (AKA CRYPTO REPAIR TEAM)
[illegible] TEAM
COMMUNICATIONS CENTER TEAM
MULTICHANNEL TEAM
CABLE INSTALLATION TEAM
MICROWAVE TEAM
MULTICHANNEL EQUIPMENT TEAM
TEAM CA, FIELD TELEPHONE SWITCHBOARD OPERATION, 12 LINES
TEAM CB, MANUAL TELEPHONE CENTRAL OFFICE, 60 LINES
TEAM CC, MANUAL TELEPHONE CENTRAL OFFICE, 120 LINES
TEAM CD, MANUAL TELEPHONE CENTRAL OFFICE, 220 LINES
TEAM CE, MANUAL TELEPHONE CENTRAL OFFICE, 660 LINES
TEAM CF, TACTICAL CIRCUIT CONTROL FACILITY
TEAM CG, COMMUNICATIONS TECHNICAL CONTROL FACILITY
TEAM CH, VIDEO TECHNICAL CONTROL FACILITY
TEAM CI, FIELD WIRE AND FIELD CABLE INSTALLATION
TEAM CJ, FIELD CABLE INSTALLATION
TEAM CK, TELEPHONE INSTALLER
TEAM CL, CABLE SPLICING
TEAM CM, WIRE AND CABLE SUPERVISION
TEAM CN, CABLE SPLICING SUPERVISION
TEAM HA, TELETYPEWRITER TERMINAL FACILITY (2HDX)
TEAM HB, TELETYPEWRITER TERMINAL FACILITY (3HDX)
TEAM HC, TELETYPEWRITER TERMINAL FACILITY (6HDX)
TEAM HD, TELETYPEWRITER TERMINAL FACILITY (4FDX)
TEAM HE, TELETYPEWRITER TERMINAL FACILITY (8HDX)
TEAM HF, TELETYPEWRITER TERMINAL FACILITY (5FDX)
TEAM HG, TELETYPEWRITER TERMINAL FACILITY (8FDX)
TEAM HH, MESSAGE CENTER
TEAM HI, MOTOR MESSENGERS
TEAM HJ, MESSENGER DISPATCH
TEAM HK, CRYPTO MATERIEL CONTROL
TEAM HL, COMMUNICATION CENTER SPECIALIST
TEAM HM, COMMUNICATION CENTER SUPERVISOR
TEAM IA, MOBILE RADIO TELETYPEWRITER, FDX
TEAM IB, MOBILE RADIO TELETYPEWRITER, HDX
TEAM IC, HF RADIO RECEIVER
TEAM ID, HF RADIO TRANSMITTER
TEAM IE, RADIO COMMUNICATION CENTRAL, MDM PWR
TEAM IF, RADIO COMMUNICATION CENTRAL, L/MDM PWR
TEAM IG, RADIO TELETYPEWRITER OPERATIONS
TEAM IH, RADIO WIRE INTERGRATION, RWI
TEAM II, MULTICHANNEL RADIO TERMINAL, LOW CAP
TEAM IJ, MULTICHANNEL RADIO REPEATER, LOW CAP
TEAM IK, MULTICHANNEL MULTIPLEX TERMINAL, LOW CAP
TEAM IL, MULTICHANNEL RADIO TERMINAL, MDM CAP
TEAM IM, MULTICHANNEL RADIO REPEATER, MDM CAP
TEAM IN, MULTICHANNEL MULTIPLEX TERMINAL, MDM CAP
TEAM IO, RADIO TERMINAL, HIGH CAP
TEAM IP, RADIO RELAY, HIGH CAP
TEAM IQ, MULTIPLEX TERMINAL, HIGH CAP
TEAM IR, TROPO SCATTER TERMINAL, SINGLE RADIO
TEAM IS, TROPO SCATTER TERMINAL, DUAL RADIO
TEAM IT, MULTIPLEX TERMINAL STATION
MULTICHANNEL REPEATER TEAM
FM RADIO TEAM
FM VOICE RADIO TEAM
INSTALLATION TEAM

TRANSPORTATION

HATCH GANG

CONTAINER HATCH GANG

BOAT CREW

AMPHIBIAN CREW

DIVING TEAM

TEAM FB - PICKET BOAT (46 ft.)

TEAM FD - HARBOUR TUG (45 ft.)

TEAM FE - PAX/CGO/PICKET BOAT (65 ft.)

TEAM FG - HARBOUR TUG (70 ft.)

TEAM FJ - HARBOUR TUG (100 ft.)

TEAM FK - OCEAN GOING TUG (126 ft.)

TEAM FL - LIQ/DRY CARGO BARGE, SP

TEAM FN - LIGHTER AMPHIBIAN, LARC LX

TEAM FO - OCEAN GOING TUG (143 ft.)

TEAM IA - DIVER TEAM

Exhibit B-4. Army Team Operations Survey - Unit Questionnaire Package (Team Questionnaire). Each unit that was part of the FORSCOM sample was given from 1-40 Team Questionnaires. The exact number depended on the size of the unit. The unit was instructed to complete one questionnaire for each team type that exists under the TOE number supplied by the research group. The TOE numbers were identified from the service schools' Team Identification Worksheets.

PI 165P

TEAM NAME

TEAM QUESTIONNAIRE

(Fill in one questionnaire for each team) ☐☐ 21-23

1. How many of these teams are in your unit at present? ☐☐☐ 24-26

What is the average number of members on this team in your unit at present? ☐☐ 27-28

3. What percentage of these teams in your unit is not up to full authorized strength for this team? ☐☐ 29-30

4. How frequently are the following types of team training used to train this team in your unit?
Team training, as opposed to individual training, focuses on the development of team skills (such as coordination and communication) and the ability of the team to perform together as an effective unit.

	Daily	Several times a week	Once a week	Several times a month	Once a month	Several times a year	Once a year	Less than once a year	Never	
a. On-the-job team training.	☐	☐	☐	☐	☐	☐	☐	☐	☐	31
b. Participation in (FTX, etc.) maneuvers, exercises, tests (FTX, ARTEP, etc.).	☐	☐	☐	☐	☐	☐	☐	☐	☐	32
c. Field training exercises just for the team.	☐	☐	☐	☐	☐	☐	☐	☐	☐	33
d. Classroom lectures and demonstrations which emphasize team skills.	☐	☐	☐	☐	☐	☐	☐	☐	☐	34
e. Use of team training devices.	☐	☐	☐	☐	☐	☐	☐	☐	☐	35
f. Special schools or courses for the team as a whole (other than the unit)	☐	☐	☐	☐	☐	☐	☐	☐	☐	

g. Other (describe and give frequency)

_____

_____

_____

_____

5. How frequently should the following types of team training be used for this team?

	Daily	Several times a week	Once a week	Several times a month	Once a month	Several times a year	Once a year	Less than once a year	Never	
a. On-the-job team training	☐	☐	☐	☐	☐	☐	☐	☐	☐	37
b. Unit (bn, co, plt, etc.) maneuvers, exercises, tests (FTX, ARTEP, etc.).	☐	☐	☐	☐	☐	☐	☐	☐	☐	38
c. Field training exercises just for the team.	☐	☐	☐	☐	☐	☐	☐	☐	☐	39
d. Classroom lectures and demonstrations which emphasize team skills.	☐	☐	☐	☐	☐	☐	☐	☐	☐	40
e. Use of team training devices.	☐	☐	☐	☐	☐	☐	☐	☐	☐	41
f. Special schools or courses for the team as a whole (outside the unit).	☐	☐	☐	☐	☐	☐	☐	☐	☐	42

g. Others (describe and give frequency):

_____

_____

6. To what extent are the leaders in your unit satisfied with the present level of team training (even if there is none) for this team?

To no extent (completely dissatisfied)	To a little extent	To a moderate extent	To quite an extent	To a great extent (completely satisfied)*	
☐	☐	☐	☐	☐	43

* If the leaders are completely satisfied skip to question number 8

7. To what extent do the factors listed below prevent your unit from conducting additional or better team training?

	To no extent	To a little extent	To a moderate extent	To quite an extent	To a great extent	
a. Lack of programs of instruction for team training.	☐	☐	☐	☐	☐	44
b. Lack of realistic training for the team.	☐	☐	☐	☐	☐	45
c. Lack of trainers to conduct team training.	☐	☐	☐	☐	☐	46
d. Lack of time to conduct team training (team has to perform other peacetime duties)	☐	☐	☐	☐	☐	47
e. Lack of facilities and support equipment.	☐	☐	☐	☐	☐	48
f. Lack of team training devices, team training aids, etc.	☐	☐	☐	☐	☐	49
g. Difficulty of keeping the team together for a sustained training program.	☐	☐	☐	☐	☐	50
h. Individual training is more important.	☐	☐	☐	☐	☐	51

i. Others (describe and indicate extent):

_____

_____

_____

5. To what extent do each of the following characteristics apply to this team?

	To no extent	To a little extent	To a moderate extent	To quite an extent	To a great extent	
a. Except for transfers, team members on a given team are usually the same individuals from hour to hour and from day to day.	☐	☐	☐	☐	☐	52
b. The team's tasks are mainly composed of the activities needed to operate one or more items of equipment.	☐	☐	☐	☐	☐	53
c. Successful task/mission performance requires team members to obtain information about the work situation and to pass it on to other team members.	☐	☐	☐	☐	☐	54
d. Successful task/mission performance is dependent on a leader to closely coordinate the activities of all team members.	☐	☐	☐	☐	☐	55
e. Successful task/mission performance requires team members to coordinate their activities directly with each other.	☐	☐	☐	☐	☐	56
f. The tasks are such that if one member cannot perform adequately (e.g. fast enough), another member can "make up for" that performance.	☐	☐	☐	☐	☐	57
g. The team members need to express a "team spirit" in their work activities.	☐	☐	☐	☐	☐	58
h. Task performance by team members is dependent on timing, quality, and/or completeness of the performance of other team members.	☐	☐	☐	☐	☐	59
i. A team member needs to know his mates and know how they will react in certain situations.	☐	☐	☐	☐	☐	60

(Other (describe and indicate extent):

_____

_____

_____

_____

9. To what extent do the factors listed below cause frequent or critical problems for the performance of this team?

	To no extent	To a little extent	To a moderate extent	To quite an extent	To a great extent	
a. Frequent turnover in team personnel (turbulence).	☐	☐	☐	☐	☐	61
b. Some team members are not qualified for their positions.	☐	☐	☐	☐	☐	62
c. Inadequate amount of team training.	☐	☐	☐	☐	☐	63
d. Team training is not meaningful or realistic.	☐	☐	☐	☐	☐	64
e. Team is not given the opportunity to train with other units.	☐	☐	☐	☐	☐	65
f. Lack of team spirit.	☐	☐	☐	☐	☐	66
g. Social problems (e.g., hostility between members).	☐	☐	☐	☐	☐	67
h. Lack of technically and tactically proficient leadership.	☐	☐	☐	☐	☐	68
i. Lack of discipline.	☐	☐	☐	☐	☐	69
j. Some type of equipment that the team needs to perform.	☐	☐	☐	☐	☐	70
k. Lack of equipment that the team would normally have.	☐	☐	☐	☐	☐	71
l. Team is employed using inappropriate tactics.	☐	☐	☐	☐	☐	72
m. Team is employed beyond its capabilities.	☐	☐	☐	☐	☐	73
n. Lack of communication and coordination.	☐	☐	☐	☐	☐	74
o. The current configuration of the team is inadequate (e.g., more or fewer members are needed or different types of personnel are needed).	☐	☐	☐	☐	☐	75
p. Teams are frequently understrength and thus lack the manpower to effectively perform team missions.	☐	☐	☐	☐	☐	76

q. Others (describe and indicate extent):

_____

_____

_____

_____

10. During external (ARTEP, ORTE, etc.) evaluations, is the performance of this team evaluated as a complete and separate element of the unit?

Yes	No	Sometimes*	
☐	☐	☐	77

* Explain: _____

_____

_____

11 a. How frequently is the performance of this team (as a separate element of the unit) internally evaluated within your unit (i.e., separate from platoon evaluations or independent evaluations of individual members)?

Daily	Several times a week	Once a week	Several times a month	Once a month	Several times a year	Once a year	Less than once a year	Never	
☐	☐	☐	☐	☐	☐	☐	☐	☐	78

b. If the team is internally evaluated by unit leaders, describe the methods you use to test the teams. These methods might include procedures (e.g., does the team follow the correct procedures), quantitative standards checklists (e.g., number of hits, time it takes to perform a task), and overall ratings of mission accomplishment.

_____

_____

_____

12. If this team is presently evaluated, to what extent are these evaluations a satisfactory estimate of the team's ability to perform its wartime missions.

	Team is not evaluated	To no extent	To a little extent	To a moderate extent	To quite an extent	To a great extent	
a. External evaluation:	☐	☐	☐	☐	☐	☐	79
b. Internal evaluation:	☐	☐	☐	☐	☐	☐	80

13 Please list any source documents, field manuals, TMs, ARTEPs, Training Circulars, studies or publications which can be used to obtain information about this team.

_____

_____

_____

_____

APPENDIX C

SCHOOL LIST AND INSTRUCTIONS SENT TO SCHOOLS

Exhibit C-1. A list of the 13 service schools contacted during Phase I of the Army team survey.

Superintendent
Academy of Health Sciences
ATTN: HSA-TDC (LTC Richard J. Berchin)
Fort Sam Houston, Texas 78234

Commandant
U. S. Army Air Defense School
ATTN: ATSA-TD-CTD (Mr. A. P. Hendley)
Fort Bliss, Texas 79916

Commandant
U. S. Army Armor School
Directorate of Training Development
Collective Training Division
ATTN: Mr. J. W. Neely
Fort Knox, Kentucky 40121

Commander
U. S. Army Aviation Center
ATTN: ATZQ-TD-TAD (Mr. Ruben Harris)
Fort Rucker, Alabama 36362

Commandant
U. S. Army Engineer School
ATTN: ATSE-TDC (CPT D. E. Gulakowski)
Fort Belvoir, Virginia 22060

Commandant
U. S. Army Field Artillery School
ATTN: ATSF-TD-CT (CPT Sprengle)
Fort Sill, Oklahoma 73503

Commandant
U. S. Army Infantry School
ATTN: ATSH-CD-OE (Mr. R. O'Neil)
Fort Benning, Georgia 31905

Commandant
U. S. Army Military Police School
ATTN: ATZN-TDP-C (CPT G. Horton)
Fort McClellan, Alabama 36205

Commandant
U. S. Army Missile and Munitions Center and School
ATTN: ATSK-CD-OD (Mr. W. Schmidt)
Redstone Arsenal, Alabama 35809

Commandant
U. S. Army Ordnance Center and School
ATTN: ATSL-TD-TA (CPT R. Rose)
Aberdeen Proving Ground, Maryland 21005

Commandant
U. S. Army Quartermaster School
ATTN: J R. Buettner
Fort Lee, Virginia 23801

Commandant
U. S. Army Signal School
ATTN: ATSN-TD-CT (CPT E. L. Quinn)
Fort Gordon, Georgia 30905

Commandant
U. S. Army Transportation School
ATTN: ATSP-CD-OR (MAJ Larkins)
Fort Eustis, Virginia 23604

Exhibit C-2. Complete package (excluding worksheets and questionnaires) sent to the 13 service schools.

DEPARTMENT OF THE ARMY
U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES
FORT BENNING FIELD UNIT, P.O. BOX 2086
FORT BENNING, GEORGIA 31905

PERI-OB

27 June 1977

SUBJECT: ARI Team Operations Survey

THRU: H. C. Strasel, Chief HCS

TO: (Address of Service School Typed Here)

1. Reference is made to the letter, dated 31 May 1977, ATTNG-TDD-PM, HQ, United States Army Training and Doctrine Command, subject as above.

2. The Army Research Institute (ARI), Fort Benning Field Unit, and our resident contractor, Litton Mellonics, have begun a systematic study of team performance and training requirements. The initial step in the study is to conduct a survey to determine the frequency and extent of team training, evaluation, and other problems in the Army. Reference 1 reviews the need for this study, documents TRADOC's support for the effort, and states a requirement for TRADOC school support. The support requested from TRADOC schools is of utmost importance to the study. If it is properly provided, it will insure that future team research will be of use to the Army.

3. Your assistance is required in the development of the Army Team Operations Survey (ATOS) questionnaire and in the development of FORSCOM unit sampling procedures. You are asked to:

a. Provide a list of formal teams in your branch;

b. Complete a short questionnaire on each of these teams as initial information on the composition and characteristics of each team;

c. Provide information that will assist in developing the FORSCOM sampling plan and procedures; and

PERI-OB 27 June 1977
SUBJECT: ARI Team Operations Survey

d. Evaluate the interpretability and meaningfulness of the items in the ATOS questionnaire.

4. A set of instructions for performing these tasks is attached as inclosures 1-4. If there is any difficulty in interpreting these instructions or any questions concerning how to respond, please contact Dr. Jack B. Shelnutt of Litton Mellonics at AV 835-5589/3617/1414. If any other questions arise regarding the conduct of the study, please contact Ms. Dorothy L. Finley of ARI at the same AV number.

5. To reiterate, your inputs are very important to the success of this study. We appreciate your support and look forward to working with you.

Dorothy L. Finley

DOROTHY L. FINLEY
Research Psychologist

ARI as described

ARI Army Team Operations Study: Instructions for School Personnel

Contents

1. Definition of a "team"

Since the term "team" is used in many different ways in various branches of the Army, it is necessary to first define "team" so that the use of the term will be consistent across branches. For the purpose of the present study, the definition of "team" needs to be limited to the following:

(a) A "team" is a small group of usually 2 to 11 men who normally perform their tasks in an interactive and interdependent manner.

(b) Position or member assignments within a "team" must be formally defined. The team members may be dedicated (e.g., tank crews) or designated (e.g., a tank killer or anti-armor squad). This means that ad hoc or informal, temporary teams (e.g., "take four men and scout that ridge") are not to be included in the present study.

The scope of the present study is also limited to certain types of teams. At present, we are interested in the combat, combat support, combat service support and other types of teams which are formed at company and platoon level. We are not interested in teams which mainly perform command and control and staff functions above the platoon level.

The above definition of a "team" is not inviolate. You are asked to attempt to use this definition and inform Litton and ARI personnel of any need for revision or extension of the definition to make it usable for your branch.

2. Instructions for providing a list of teams

One of the primary objectives of this study is to identify the various teams that exist in different branches of the Army. The following procedures have been developed to help identify teams and to structure the identification process so that it will be done systematically and consistently across the different branches.

The following materials have also been provided to help you. Appendix A contains a list of selected TOE numbers and titles for companies and smaller units within your branch. If your school has proponency for other TOE (units of company size or smaller), please add these TOE to the list.

Appendix B contains several copies of a Team Identification Worksheet which provides a place for you to write your list of teams.

The steps for filling in the Team Identification Worksheets using information in the TOE are as follows:

a. Obtain copies of the TOE listed in Appendix A.

b. Select the first TOE unit from the list.

c. Enter the TOE number of the unit in the upper right corner of a Team Identification Worksheet (Appendix B).

d. Using the organizational chart for that TOE unit, identify all of the teams in <u>each</u> platoon or section.

e. Enter the name of each team in the <u>right</u> column of the Team Identification Worksheet.

f. In the <u>left</u> column of the <u>same</u> worksheet, enter the platoon or section in which the teams are found.

g. After you have identified every team in every platoon or section in the company, select the next unit from the TOE

List it Appendix A and enter its number on the next Team Identification Worksheet. List all of the teams within the platoons or sections in this unit. Follow this procedure until all TOE units are covered.

To reduce the amount of work that you will need to perform, this procedure can be modified to eliminate redundant listing of teams by listing only additional or different teams for successive units. Each time you select a new unit (after the first unit), determine if it is similar to a unit previously covered (for example, teams found in rifle companies in airborne bn are similar to those found in rifle companies in airmobile bn). If so, simply enter the phrase "similar to TOE number (enter TOE number of the previous unit) except for the following teams" and then describe the following differences between the units:

a. Determine if there are any additional teams which can be found in platoons or sections in the unit which are not found in the previous units you have covered. If so, enter the team(s) and its section/platoon on the Team Identification Worksheet.

b. Determine also if there are any similar teams, found in the present unit and in the preceding unit, which have sufficiently different composition and training requirements to warrant their study as separate teams. If so, enter these teams on the worksheet.

c. Finally, determine if there are teams occurring in the previous unit and not in the present unit. If so, identify these teams

a not occurring in the present unit on the worksheet.

The above procedures are difficult, but a very important part of this study. The success of this project depends on your sincere efforts to carry them out. If you have any difficulty interpreting these instructions or any questions, please call the ARI/Litton POC.

After all the teams have been identified, please call the Litton/ARI POC and give us the list of teams that you have identified. Then proceed to the next section of work.

3. Instructions for completing the Team Questionnaire for school personnel.

Once teams have been identified, (and the ARI/Litton POC has been given the list of teams) it is necessary to obtain some basic information about each team. Appendix C contains several copies of a Team Questionnaire which you will need to complete (one for each team that you have identified).

Use the Team Identification Worksheets to insure that all teams that you have identified are included as subjects for the questionnaires. Enter a team name on each questionnaire and supply the information requested for each team. If you have any questions, please call ARI/Litton POC.

4. Instructions for reviewing the questions in the team survey which will be sent to FORSCOM units:

Appendix D contains a draft copy of the Team Survey which will be sent to FORSCOM units. At present, personnel in the S3/G3 shops are expected to be the respondents for this survey. They will fill out one survey form for each team that you have identified.

The draft needs to be reviewed to determine the interpretability and meaningfulness of the questions. We want to know if the questions are clearly worded and unambiguous. We also want to know if the question can be meaningfully answered. If a question can not be meaningfully answered, we need to know why (for example, it may be impossible to give a brief, simple answer, it is improbable that anyone will know the real answer, or there is too much variability within a certain type of team to use just one description to apply to all teams).

To review the survey, pick a team from the list of teams that you generated. Answer the questions in the survey with respect to this team. Write your comments concerning the interpretability of the questions and meaningfulness of possible answers in the margin of the draft copy or on the back of the survey forms.

If you have any questions, please call the ARI/Litton PGC. When you are finished with the questionnaires and survey, please return them to:

Dr. Jack B. Shelnutt
Litton Mellonics
P.O. 2403
Fort Benning, Georgia 31905

Appendix A

List of Selected TOE

Appendix B

Team Identification Worksheets

(One for each company covered in Appendix A)

Appendix C

Team Questionnaires for school personnel

(Fill in one for each team)

Appendix D

A draft copy of the Team Survey

which will be sent to FORSCOM units

(Review it to determine its inter-

pretability and meaningfulness)

APPENDIX D

EXACT CODING SCHEME FOR SERVICE SCHOOL DATA

ATOS CODE BOOK

Columns	Variable Name	Variable Label	Type	Comments
1-4	TEAM	TEAM ID NUMBER	N	Numeric identifier for team
5	CARD	CARD WITHIN A TEAM	N	Card sequence number within each team (i.e., data case)
6-7	BRANCH	(SAME)	N	Numeric identifier for subject school area
8-12	BNTOE	BATTALION TOE	N	Battalion TOE number
13-17	COTOE	COMPANY TOE	N	Company TOE number
18-19	SIZE	SIZE OF TEAM	N	Actual count of team members
20-21	POSNUM	NO. OF DIFF. POSITIONS	N	Number of position types represented
22-23	LDRRANK	RANK OF LEADER	A	Rank of team leader
24	RNKNUM	NO. OF DIFF. RANKS (W-O LDR)	N	Number of rank types represented excluding the leader's
25-26	LOWRANK	LOWEST RANK	A	Lowest rank
27-28	HIGHRANK	HIGHEST RANK (W-O LDR)	A	Highest rank excluding the leader's
29-33	LDRMOS	MOS OF LEADER	A	MOS of leader (including skill level)

Columns	Variable Name	Variable Label	Type	Comments
34-37	MOSNUM	NO. OF DIFF. MOS	N	Number of MOS types represented
36-38	DOMOS	DOMINANT MOS	A	MOS appearing most often
39-41	DOMOS2	BIMODAL DOMINANT MOS	A	Used if DOMOS is bimodal
42	SCNDLDR	NO. OF SECONDARY LEADERS	N	Number of secondary leaders, if any
43-44	SKL40	NO. WITH SKILL LEVELS 40+	N	Number with skill levels 40 and above
45-46	SKL30	NO. WITH SKILL LEVEL 30	N	Number with skill level 30
47-48	SKL20	NO. WITH SKILL LEVEL 20	N	Number with skill level 20
49-50	SKL10	NO. WITH SKILL LEVEL 10	N	Number with skill level 10
51-52	EQUIP	NO. OF DIFF. EQUIPMENT TYPES	N	Number of pieces of equipment used by team
53-54	ACTIV	NO. OF JOB ACTIVITIES (TOTAL)	N	Number of total job activities performed
55-56	TMACT	NO. OF JOB ACTIVITIES PERFORMED BY TEAM	N	Number of job activities performed by team as a unit
57-58	INDACT	NO. OF JOB ACTIVITIES PERFORMED BY INDV.	N	Number of job activities performed by individuals alone
59	EMERESTB	EMERGENT-ESTABLISHED SCALE	N	1=Established; 2=More Established Than Emergent; 3=About Equally Established and Emergent; 4=More Emergent Than Established 5=Emergent

APPENDIX E

SPSS COMPUTER RUNS

(Bound separately in a single volume and was only issued with the original copy of the report.)

END

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DTIC